

**AMENDMENTS TO THE SPECIFICATION**

[0034] Turning now to Figure 4A, a block diagram of one embodiment of an adapter channel mapping system 200 is depicted. Physical channels 202 comprise a physical channel A 204, a physical channel B 206, a physical channel C 208, and a physical channel D 210. When the adapter channel mapping system 200 is employed in a testing environment, the physical channels 202 are in communication with the first network adapter 14 or the second network adapter 18. Data may be transmitted, for example in the form of signals, to the first network adapter 14 or to the second network adapter 18. These signals are sampled when received and the resulting data is first stored in the physical channels 202 and then transmitted, again in the form of signals, from the physical channels 202 to the first network adapter 14 or to the second network adapter 18. It should be understood that the term data, as used herein, may include, but is not limited to, any information that is manipulated, stored, or otherwise processed which may be communicated in the form of, for example, signals, but data may also be communicated in other manners. In some cases, the terms data and signals [[my]] **may** be used interchangeably, for example, data may be transmitted and signals may be processed or stored and the present disclosure should not be limited based on functions or actions that may be performed on or uses for data and signals. In some embodiments, there may be no distinction between storing data in the physical channels 202 and transmitting this data as signals from the physical channels 202. Similarly, data or signals received from the first network adapter 14 or the second network adapter 18 is received in the physical channels 202 and then stored in the physical channels 202. In some embodiments, there may be no distinction between receiving signals or data in the physical channels 202 and storing this data in the physical channels. The physical channels 202 may be memory locations or they may be the registers of input/output devices such as transmitter/receiver chips. This application incorporates

herein by reference for all purposes U.S. Patent Application Serial No. 10/740,699, entitled “Measurement Connector for Test Device” filed December 19, 2003.

**[0036]** A read/write module 222 is in communication with both the logical channels 212 and the physical channels 202. The read/write module 222 is operable to read the addresses or references stored in the logical channels 212 and to write data or signals to and read or sample data or signals from the physical channels 202 in accordance with the addresses or references read from the logical channels 212. The read/write module 222 is in communication with a test processing module 224 and services requests from the test processing module 224 to write data to and read data from locations addressed or referenced by the logical channels 212, thereby writing data to and reading data from the first network adapter 14 and the second network adapter 18 and hence the LAN 12. For example, the test processing module 224 may request the read/write module 222 to write data, which for example may be transmitted as signals, to **logical** channel A 214, whereupon the read/write module 222 reads the address or reference stored in logical channel A 214 and then writes the data to the location addressed or referenced by this address or reference. Because the logical channel A 214 contains the address or reference to one of the physical channels 202, the read/write module 222 writes the data out as signals to one of the physical channels 202 – the physical channel whose address or reference is stored in logical channel A [[212]] **214**.

**[0041]** Turning now to Figure 5A, an example flow of test data from the test processing module 224 to the physical channels 202 is depicted. The physical channel A 204 is at address A000, the physical channel B 206 is at address A004, the physical channel C 208 is at address A008, and the physical channel D 210 is at address A00C. The logical channels 212 are shown to be initialized

with the logical channel A 214 containing address A000, the logical channel B 216 containing address A004, the logical channel C 218 containing address A008, and the logical channel D 220 containing address A00C. On the left side of Figure 5A, the test processing module 224 is depicted as containing test data values where a channel A data 230 is a binary number 00010001, a channel B data 232 is 00100010, a channel C data 236 is 00110011, and a channel D 238 data is 01000100.

[0043] Turning now to Figure 5B, a second example flow of test data from the test processing module 224 to the physical channels 202 is depicted, in this case with the second and third wire pairs logically crossed. As in Figure 5A, the physical channel A 204 is at address A000, the physical channel B 206 is at address A004, the physical channel C 208 is at address A008, and the physical channel D 210 is at address A00C. The logical channels 212 are shown to be initialized with the logical channel A 214 containing address A000, the logical channel B 216 containing address A008, the logical channel C 218 containing address A004, and the logical channel D 220 containing address A00C. On the left side of Figure 5B, the test processing module 224 is depicted as containing test data values where the channel A data 230 is a binary number 00010001, the channel B data 232 is 00100010, the channel C data 236 is 00110011, and the channel D data 238 is 01000100. This test data is the same as that employed in Figure 5A.

[0050] While the adapter channel mapping system 200 contemplates obviating the need to employ a separate set of network adapters 14 and 18 to test a 568B network cabling type LAN 12, the adapter channel mapping system 200 is fully compatible with being used with the type of network

adapters 14 and 18 which physically cross connect Channel B to wires 3 and 6 and cross connect Channel C to wires 1 and 2 as depicted in Figure [[3B]] 3A.

[0058] An example fragment of C language code implementing this process for reading data, such as sampling signals, is presented below.

```
read (Channel_A, data4_5);  
read (Channel_D, data7_8);  
switch (selectedNetworkDataCablingType) {  
    case (LAN568A) : read (Channel_B, data3_6); read (Channel_C, data1_2); break;  
    case (LAN568B) : read (Channel_B, data1_2); read (Channel_C, data3_6); break;  
}
```

[0061] Again, while the code fragments above contemplate obviating the need to employ a separate set of network adapters 14 and 18 to test a 568B network cabling type LAN 12, this embodiment is fully compatible with being used with the type of network adapters 14 and 18 which physically cross connect Channel B to wires 3 and 6 and cross connect Channel C to wires 1 and 2 as depicted in Figure [[3B]] 3A.